X-RAY ASSAY LABORATORIES LIMITED

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CERTIFICATE OF ANALYSIS

TO: DEPARTMENT OF ENERGY, MINES & RESOURCES
ATTN: DR. H.F. STEGER, COORDINATOR, CCRMP
CANMET, MINERAL SCIENCE LABORATORIES
555 BOOTH STREET
OTTAWA, ONTARIO K1A 0G1

CUSTOMER NO. 380

DATE SUBMITTED
30-JUL-85

REPORT 26288 REF. FILE 20711-Q3

1 PULP CONTRACT #OSQ85-00058 RN: 23440-5-9062-5

WERE ANALYSED AS FOLLOWS:

	METHOD	DETECTION LIMIT
EU PPM	DCPA	10.000
GD PPM	DCPA	10.000
DY PPM	DCPA	10.000
ER	DCPA	1.000
TM PPM	DCPA	1.000
U %	XRF	0.001
THO2 %	XRF	0.001
LA2O3 %	XRF	0.001
CEO2 %	XRF	0.001
PR6O11 %	XRF	0.001
ND2O3 %	XRF	0.001
SM2O3 %	XRF	0.001
HO	DCPA	1.000
TB PPM	DCPA	1.000
YB	DCPA	1.000
LU PPM	DCPA	1.000
K PPM	DCPA	100.000

FC: 230-131-000000-306901-0415

MICROMEDIA

X-RAY ASSAY LABORATORIES LIMITED

DATE 28-NOV-85 CERTIFIED BY .....

CONTRACT SERIAL NO. OSQ85-00058

CONTRACTOR: X-Ray Assay Labs. Ltd.,

TITLE: CERTIFICATE OF ANALYSIS

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SAMPLE	EU PPM	GD PPM	DY PPM	ER	TM PPM	U %
OKA-2(A)	2120	4970	1440	INF	23	0.022
OKA-2(B)	2320	5460	1620	INF	25	0.021
OKA-2(C)	2270	5290	1570	INF	26	0.017
OKA-2(D)	1900	4410	1340	INF	22	0.022
OKA-2(E)	2300	5460	1680	INF	26	0.026

SAMPLE	THO2 %	LA2O3 %	CEO2 %	PR6O11 %	ND2O3 %	SM2O3 %
OKA-2(A)	3.463	5.511	13.581	2.032	6.865	0.895
OKA-2(B)	3.440	5.511	13.581	1.995	6.855	0.891
OKA-2(C)	3.517	5.511	13.683	2.041	6.855	0.888
OKA-2(D)	3.512	5.556	13.581	2.003	6.847	0.890
OKA-2(E)	3.483	5.467	13.581	1.986	6.883	0.882

SAMPLE	HO	TB PPM	YB	LU PPM	K PPM
OKA-2(A)	INF	613	INF	13	3300
OKA-2(B)	INF	663	INF	13	3300
OKA-2(C)	INF	634	INF	13	3300
OKA-2(D)	INF	540	INF	11	3400
OKA-2(E)	INF	640	INF	13	3300

Mineral Science Laboratories - CANMET

Methods of Analysis on Reference Materials OKA-2

General Comment

All analyses were performed in one group. Along with these samples other reference materials were run but they were used as controls and not as calibrating standards.

Reference Material OKA-2

La, Ce, Pr, Nd and Sm determinations were done on a 40 mm fused disk (0.13 g of sample in 5 grams of Li_2BO_4) using a Philips PW 1400 sequential x-ray fluorescence spectrometer. U and Th were done by XRF on a pressed pellet using an internal standard.

Eu, Gd, Dy, Tm, Tb and Lu were done by direct-current plasma emission spectrometry on a concentrated solution after ion exchange separation. The original digestion was 1:1 $HF/HClO_4$. Er, Ho, and Yb suffered from severe interfereces (from other R.E.) and will be part of the ICP/MS data.

*The original digestion was 1:1 $HF/HClO_4$.

K was done by atomic absorption spectrometry. Same digestion as the initial step for rare earth determination.